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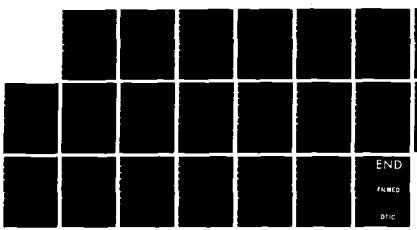

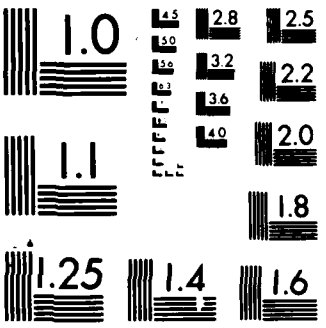

ETERNAL HOPE: AMERICA'S INTERNATIONAL NARCOTICS EFFORTS

Peter Reuter

February 1985

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February 1985

ETERNAL HOPE: AMERICA'S INTERNATIONAL NARCOTICS EFFORTS[1]

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Throughout the twentieth century, the government of the United States has maintained that the solution to the American drug abuse problem lies in the hands of the foreign nations that produce the most important illicit drugs. That view has held true for administrations as different as those of John Kennedy and Ronald Reagan and for drugs as varied as heroin and marijuana. The tone of the official statements on this matter has become somewhat less accusatory over the years, but not much. The government no longer suspects Communist governments of attempting to corrupt American moral fiber and fighting power through drug exports, though the Bulgarians, North Koreans and Cubans have been caught in minor facilitating roles from time to time. Nonetheless, there has been no change in the view that cutting exports from countries such as Burma, Colombia, and Pakistan is the best method for reducing U.S. consumption of heroin, cocaine, and marijuana.[2] For example, the

[1]A number of State Department officials provided helpful comments; I would particularly like to acknowledge assistance from James Spain, Mark Steinetz, and Jon Wiant. Clyde Taylor provided a very detailed and helpful critique of a draft, as did Nathan Edelman. Mark Kleiman is, as usual, responsible for any good ideas in this paper. The research reported here was supported by the Conrad Hilton Foundation. The views expressed are solely the responsibility of the author and should not be identified with those of The Rand Corporation or its sponsors. A shorter version of this paper will be published in *The Public Interest*.

[2]This paper will deal only with these three drugs. Other drugs, such as methaqualone, produced overseas by pharmaceutical companies, represent a different problem, for which the diplomatic solution has been quite successful. Heroin, cocaine and marijuana present more serious social problems than other foreign produced drugs, the first because of its unique criminogenic qualities, the other two because of the size of their user populations and the black market revenues they generate.

White House stated in 1982 that "elimination of illegal drugs at or near their foreign source is the most effective means to reduce the domestic supply of these substances."

Fifteen years ago President Nixon, under heavy Congressional pressure, made this notion a tangible part of American foreign policy by initiating bilateral agreements with a number of source countries to assist them in reducing their exports of illicit drugs. These agreements have become a standard component of battles about diplomacy between the State Department and Congress. This year the State Department's Bureau of International Narcotics Matters released a report showing that world production of the major illicit drugs had continued to increase in 1983. As always, the State Department saw reason for cautious optimism, with more foreign governments pledging support of U.S. efforts. Congress once again charged that the Department was giving too little high level attention to the drug problem. But there is no political dispute about the centrality of these international programs to American drug policy. The only dispute concerns the appropriate levels of expenditure and the intensity of pressure to be exerted on other nations.

The notion of production control, as it is usually called, is indeed an appealing one. Enough of the Band-Aids of interdiction and domestic law enforcement; we shall strike at the *fundamentals*, namely drug production itself. I think it fair to say that the appeal is peculiarly strong for Americans. The rest of the world is much more resigned to Band-Aids, if not to the ailment itself.

Unfortunately, there is plenty of evidence that U.S. foreign drug control efforts have been unsuccessful. In recent years, U.S. consumption and world production appear to have increased somewhat for heroin and greatly for the other two drugs; prices[3] have been declining in the United States.

The failures of U.S. international programs are not the result of incompetence or inadequate resources; they are inherent in the structure of the problem. The producer countries jointly lack either the

[3] Some nominal retail prices have risen, but inflation and quality adjusted price series point to a steady decline. See General Accounting Office (1983, p. 16).

motivation or the means to reduce total production. Even if control were possible, it is likely that U.S. imports from each of these countries, apart from Mexico and Turkey, are very insensitive to changes in output. Just as importantly, the set of source countries is readily expandable. The international programs serve a useful function in curbing illicit drug use in some major source countries. But they will do little to reduce drug abuse in the United States.

BACKGROUND

Numbers play a critical role in discussions about drug policy, both domestically and internationally. The numbers usually cited are impressively large. A recent article by Mathea Falco (1983), the first Assistant Secretary of State for International Narcotics Matters, under the Carter Administration, provides most of the standard ones. "In the United States, Exxon is the sole corporation with annual revenues in excess of the $79 billion that, according to the Drug Enforcement Administration's last estimates, is generated every year by the sale of illicit drugs. . . . In many less developed countries of the third world, drug trafficking . . . is transforming whole economies. In Colombia . . . marijuana and cocaine, together, produce more foreign exchange than coffee and cut flowers, that nation's chief lawful exports. . . . Bolivia's lawful foreign-exchange earnings . . . account for $800 million; cocaine is estimated to generate as much as ten times that."

None of these figures is well founded or plausible. The best study of the total expenditures on illicit drugs in this country (Carlson et al., 1983) points to a total of less than $27 billion (for marijuana, heroin and cocaine). I believe that even that may be too high since it includes a very dubious estimate of the total number of heroin addicts (Reuter, 1984). The official estimate of $79 billion that Falco referred to was based on extremely questionable estimating procedures and has been, as of 1983, effectively disavowed (National Narcotics Intelligence Consumers Committee, 1983). Unfortunately, high level political rhetoric clings to the old inflated figures. The visible lobbies in this area (law enforcement, treatment providers, citizen anti-drug groups, etc.) demand high, rather than accurate, estimates.

That estimate is critical to the second set of numbers, namely the foreign exchange earnings of the producer countries. If total marijuana expenditure is $7 billion (Carlson's estimate) rather than $22 billion (the official estimate), and we take account of the fact that the exporter receives barely 8 percent of the retail price (Table 1), then we start to see much less frightening figures for producer country earnings. Total producer country earnings are probably about $500 million for marijuana; for cocaine the comparable figure is probably $300 million.[4] Colombia's coffee exports in 1980 earned $2.4 billion, and since there is a fair amount of smuggling of coffee, this figure is an underestimate. The drug earning numbers are still large but no longer appear to overwhelm the producer economies.

It is unclear whether American drug abuse is growing or declining. Recent surveys of adolescent marijuana use, the best data on drug use available, point to a rapid decline from the heights reached in the late 1970s. In 1978, 10.7 percent of high school seniors reported daily marijuana use; in 1983, that figure had fallen to 5.5 percent. There

Table 1

EXPORT AND RETAIL PRICES OF DRUGS, 1980

Drug	Export Price[a]	Retail Price[a]
Heroin	$70,000	$1,900,000
Cocaine	20,000	650,000
Marijuana	135	1,700

SOURCE: Adapted from *Narcotics Intelligence Estimate*, 1982.

[a]Per pure kilogram, as it leaves the source or final transshipment country.

[4]Colombian nationals also play a role in post-export marketing in the United States. It is unlikely, however, that much of this dollar income is repatriated to Colombia.

has been a flattening or decline in the percentages reporting regular use of most other major drugs over the last few years. However, as the young adult population becomes richer in people who were drug users as adolescents, it is likely that total drug use will continue to rise somewhat. Heroin use has recently expanded, largely as the result of the massive increase in supplies available from Southwest Asia (Afghanistan, Iran, and Pakistan). It appears that most of this increase in U.S. heroin consumption comes from re-entry by former addicts attracted by the higher purity rather than the arrival of a new generation of users. But if the price and quality of heroin in the U.S. continue to improve, then it is possible that there will be an increase in new youth addiction rates.

Other developed nations collect less data on drug use than does the United States. It is difficult to provide even rough indicators of the scale or direction of change. The numbers of heroin overdose deaths in Germany, Italy, and Denmark have attracted a good deal of attention recently. In Germany the overdose rate, per capita, is perhaps four times the rate in the United States. This may be explained by the much higher purity of the drug available there and the relative inexperience of the users. First time users of 20 percent purity heroin are much more at risk than experienced users of 2 percent heroin, so that a much smaller user population in Germany may produce the same number of overdoses. European police agencies report rising seizures of marijuana and cocaine but that may partly also represent the increased interest engendered by U.S. efforts to intensify drug enforcement worldwide. Drug use in Europe is probably rising but still much less prevalent than in the United States.

While all three drugs are derived from foreign plant sources, each presents a distinctive problem which can best be understood after a brief description of the sources and circumstances of production.

Heroin is derived from opium, itself a simple product of the poppy plant (*papaver somniferum*), grown for centuries throughout Asia and the Middle East. Opium has many legitimate uses, both for the farmer (cooking oil, cattle feed, and fuel) and for pharmaceutical companies (pain killers). There is a large, and apparently effectively

controlled, legal production of opium in a number of countries; India, Turkey, Australia, and France are the most prominent.[5] But in addition, there is significant production for illicit consumption, either of opium or the more refined heroin; the major producers for illicit consumption are Afghanistan, Burma, Iran, Mexico, Pakistan, and Thailand. The producers in all these countries are peasant farmers. The U.S. heroin market receives supplies from all these countries.

Cocaine is produced from coca leaves that are grown in only four countries: Peru, Bolivia, Colombia, and Brazil. Peruvian and Bolivian coca growing is long established and a significant share of the leaves is consumed domestically as a mild stimulant. Peruvian leaves are also refined, legally, for pharmaceutical and flavoring purposes. Colombian and Brazilian production, which has developed only in the last few years, is solely for illicit refining into coca base and, eventually, cocaine hydrochloride, for foreign (predominantly U.S.) consumption. A significant fraction of Peruvian and Bolivian production is also destined for illegal markets. The producers are peasant farmers.

Marijuana grows throughout the world, under a wide variety of horticultural and climatic conditions. The major producers currently are Colombia, Jamaica, Mexico, Morocco, and the United States. The American market is supplied predominantly by Colombia and Jamaica; it is possible that the Colombian production is organized by entrepreneurs who finance farmers and have developed better strains of the crop.

Each drug is associated with significant corruption in most of the producer countries. The U.S. government has obtained indictments against, though not extradition of, senior cabinet ministers in the former Bolivian regime of General Garcia Meza. The marijuana export trade in Colombia may have been run by military officials in some periods. The Thai government has admitted widespread corruption in its narcotics control efforts (U.S. Senate, 1981, pp. 412-413).

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[5] The claim of adequate controls rests solely on the official consensus; there are few claims to the contrary but also no relevant evidence. The *Economist* (January 28, 1984, p. 37) reported increases in diversion from Indian production, following large declines in the legitimate demand allocated to India; the diverted opium goes primarily to Indian opium users rather than international heroin distribution.

Two other preliminaries are necessary before we consider the efficacy of U.S. programs. First, the price of the illegal drug at the point of export to the United States is a very small percentage of the final price paid by the U.S. consumer. Table 1, above, presents figures on the export and final prices for all three drugs in 1980. The export price is less than 10 percent of final price in each case. Most of the final price is compensation to dealers for legal risks incurred in domestic distribution. Even very large increases in the producer country prices for these drugs will have negligible impact on the price and, hence, consumption of the drugs in the United States. The international programs can work only by creating an absolute scarcity of the drugs for U.S. consumption.

Second, U.S. consumption is probably a small share of total world production of opium, estimated to lie between 1000 and 2000 tons annually. U.S. heroin consumption accounts for only about 40 to 50 tons of opium. Given that even poor U.S. heroin addicts are more affluent than other user populations, it is likely that they should be regarded not as the marginal but the first consumers.[6] Quite a large reduction in total world opium production might still not make it difficult for U.S. heroin addicts to acquire heroin. While estimates of world production of marijuana and coca leaf are far more uncertain than of opium, it appears that U.S. consumption accounts for less than half of the total.

CONTROL EFFORTS

U.S. efforts to suppress foreign production of illicit drugs go back at least to the Shanghai Treaty of 1909 (Musto, 1973). Believing that the instability of China was very much bound up with the widespread use of opium, supplied through much of the 19th century from India by British merchants, the United States sought a treaty system that would

[6]Alternatively, one might note that the source country price is a small share of total price for American heroin users and a large portion of the total price for source country users of either opium or heroin. Thus, it is plausible that the elasticity of U.S. heroin demand, with respect to source country opium price, is lower than that of source country users.

require all nations to control the production of opium and its derivatives. Other nations were a great deal less enthusiastic, but, in 1913, 34 nations signed a fairly comprehensive agreement (later extended, again at U.S. urging, to cover cocaine and marijuana as well). In that more innocent era, there was enough faith in treaties that no program of assistance for enforcing the terms of the treaty in each nation was established. The predecessor of the Drug Enforcement Administration, the Federal Bureau of Narcotics, despite the political aggressiveness of its long-time head Harry Anslinger, remained a small agency. It had fewer than 450 employees in the early 1960s and only five agents posted in Europe, even then believed to be the site of most heroin refining. Minimal attention was given to drugs other than heroin.

Inactive though the FBN was overseas, it focused much of its rhetoric on foreign countries. Anslinger routinely accused the Chinese Communists of exporting heroin to rot the moral fiber of the free world. He managed to push through the U.N. Commission on Narcotic Drugs, in 1954, a resolution which referred to "the continuation and expansion of a twenty year old plan to finance political activities and spread addiction among other people through the sale of opium and heroin, and the extension of these operations to areas which had come under the jurisdiction of the Chinese mainland, had mutilated and destroyed whole sections of population which, during the past 40 years, had been freed of addiction through the efforts of the enforcement authorities of the free countries" (cited in Bruun, Pan and Rexed, 1975, p. 234). In fact there was never any evidence that the People's Republic of China was a major exporter and certainly not at the governmental level. There was, on the other hand, a good deal to suggest that this claim was part of a Nationalist China campaign to discredit the mainland government (McCoy, 1972, pp.147-8).

The growth of heroin use in the late 1960s changed U.S. policy markedly. No longer content to work through the international treaty system, the United States for the first time began to aggressively seek bilateral agreements, involving use of U.S. resources and personnel, to strike at production in nations which were deemed particularly important to the American heroin problem. It is these efforts, expanded after

1979 to include cocaine and marijuana, with which this paper is particularly concerned.

The United States government has used a number of approaches for reducing the export of drugs to this country. Some of those efforts focus on production itself. Resources are provided to aid local law enforcement agencies to eradicate crops, either through the spraying of a herbicide (as was done in Mexico for opium poppies) or by manually uprooting plants (as is occasionally done with coca plants in Peru). A number of projects have been funded, either by the United States directly or through multilateral agencies (such as the United Nations Fund for Drug Abuse Control), which aim at providing alternative commercial crops for farmers growing coca (in Peru) or poppies (in Burma).

Since 1978, the Bureau of International Narcotics Matters (INM) in the State Department, headed by an Assistant Secretary of State, has been responsible for foreign production control efforts, through diplomatic efforts and targeted economic assistance programs. INM had a budget appropriation of $38 million in Fiscal Year 1983.

The Drug Enforcement Administration also assists foreign governments in law enforcement activities aimed at reducing illegal drug refining and distribution, particularly in source countries. It trains foreign police at U.S. facilities. It has offices in major source and transshipment countries, helping target traffickers particularly significant for the U.S. Its international activities were budgeted at $31 million in FY 1983. Total federal expenditures on all drug programs were about $1 billion in that same year.

The small expenditures on international programs has sometimes led Congress to charge that the Executive Branch is not taking the problem seriously enough. Indeed, in 1980 Congress forced the State Department to allocate $7 million to Colombia, at a time when INM believed, correctly as it turned out, that the Colombian drug enforcement agencies would not accomplish much with the money. Generally, INM has been consistent in its view that the most important tools are diplomatic rather than financial. The second head of INM, Dominick DiCarlo, asserted, with the concurrence of the head of DEA, that one dollar spent overseas on crop reduction was worth ten dollars spent domestically on

most other nations, as well as the difficulty of determining just how seriously these foreign governments are in fact taking the problem,[20] have combined to prevent effective use of other aid programs to encourage crop reduction overseas. Only one country has ever been denied aid as a consequence of its failure to cut back drug production. In late 1980, aid to the corrupt Bolivian regime of General Garcia Meza was suspended, to be resumed in 1983 following the election of President Siles Zuazo.

Indeed, the problem is worsened by the fact that donor countries other than the United States (among whom the Scandinavian nations are prominent) have been reluctant to impose "conditionality" requirements on their aid for narcotics control efforts. I.e., donors have given producer countries monies for narcotics control without obtaining assurances that the government will continue to maintain its own level of effort in the same area. U.S. diplomatic efforts in the last three years seem, according to State Department officials, to have had some success in getting other donors to impose conditionality.

There is, nonetheless, little reason to place much faith in the programs for reducing supplies at the source announced in each of the White House *Drug Strategy* documents, published in 1975, 1979, and 1982. One indication of the lack of efficacy of such programs is precisely their repetitiousness. Each *Strategy* document announces roughly the same strategy, including treaties. None announces any measurable success, except in special circumstances; Mexico and Turkey fall into that category for the reasons given above.

The 1982 *Strategy* says all the right things, as does the 1984 INM report to Congress (U.S. Department of State, 1984). There are no illusions about the will and power of most of the relevant governments. It is noted that the United States is not on friendly terms with some of the critical producer countries. There is an awareness that the problem for individual countries is a long-term one; peasant farmers are understandably unconcerned about American drug use and are likely to be rather more efficient at opium, marijuana or coca production than at producing other, newer crops.

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[20] It is no easy task for U.S. officials to verify producer country claims as to the extent and honesty of enforcement efforts. Statistical reporting systems in these countries are likely to be very weak.

Third, locational advantage does not seem as important as one might have thought. Mexico is ideally placed for the export of the bulky drug, marijuana. The border is long and no specialized equipment is necessary. Yet Colombian marijuana supplanted Mexican with no apparent loss of marketing efficiency.

The true long-term success stories have nothing to do with international aid and law enforcement but with political and economic development. Macedonia was, prior to World War II, a significant producer of opium, mostly for domestic consumption. By the early 1970s, opium production had fallen to about 5 percent of its previous level. Bruun, Pan, and Rexed (1975, p. 219) plausibly attribute this to the general economic progress of the producing area, which made the relatively labor-intensive crop less economically attractive. On the political side, we have the success of China in its southwest provinces. Though some minority groups still produce for their own consumption, the major production areas have been eliminated since the establishment of the present regime. That is probably the result of the newly effective central government which was inspired by a repugnance for all symptoms of decadence in the old culture.[18] It is hard to draw any but the most pessimistic lessons from these two examples, at least for the design of drug enforcement assistance programs.

OPTIONS

Congress has been frequently indignant about the lack of progress in curtailing foreign production and exports to the U.S. Statutory restrictions have been placed on U.S. aid to those nations involved in drug production.[19] However, it has been as difficult to implement these restrictions as it has been to implement restrictions related to human rights policies in other nations. The complexity of U.S. relations with

[18] For political balance, it might also be noted that the Chilean regime of General Pinochet effectively eliminated an active cocaine refining sector in that nation in the mid-1970s.

[19] Colombia has been the object of much Congressional ire concerning drug exports. At least one Congressman was upset to discover that Colombia received no U.S. economic aid, thus removing the threat he hoped to use.

Secondly, the illicit drug revenues were not very important to the national or major regional economies of Turkey and Mexico. The Turkish government has been careful to prop up prices for licit opium, creating an enormous stockpile of nearly ten years' sales in the process in order to maintain farm income. But the illicit market accounted for a relatively small share of the total revenues of the producing areas. The same was true for Mexico. The potential social cost of effective enforcement was not high. These statements are obviously not true for major areas of Peru, Bolivia, Burma, and Afghanistan, at least.

There are some surprising features of the ultimate failure of the Turkish opium ban and the Mexican marijuana spraying. First, new crops came on line elsewhere with unexpected speed. While we lack sufficient data to estimate how large an expansion took place in the relevant, rather short, periods it appears that thousands of peasant farmers in Mexico (opium) and Colombia (marijuana) increased their acreage under drug cultivation within a few months, in response to income opportunities. This is rather sobering testimony to the adaptability and energy of these farmers, perhaps encouraged by drug entrepreneurs.

Second, new export-import channels developed very rapidly too. Prior to 1970, there seems to have been a trivial amount of Mexican heroin exported to the United States; by 1974, such trafficking networks were able to accommodate a very substantial amount of heroin. In the case of Colombian marijuana, it is possible that the already substantial cocaine trade provided a base for the sudden expansion of the marijuana exporting. However, the two drugs usually travel different routes; cocaine is typically flown in, while marijuana comes in most often by small boat. Trafficking organizations, at least at the export level, seem to specialize in just one of the drugs, with minor quantities of the other for personal use.

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government does seem to be concerned about an indigenous opiate problem, and perhaps even more with diversion of the proceeds of some drug sales to clandestine antigovernment activities" (p. 69). He asserts that other source countries are unconcerned with local opiate use. That is no longer the case, as discussed below.

widespread publicity about the dangers of paraquat and the extent of spraying of Mexican marijuana was to greatly reduce the American market for Mexican marijuana. But U.S. consumers were no longer willing to take the risk of possibly ingesting paraquat. Total Mexican marijuana production rapidly declined, probably as the result of the loss of the U.S. market, which had accounted for the bulk of its output.

Again the program was successful in reducing the availability of the drug from the source targeted. But once again the program does not seem to have had more than a brief effect on the availability of the targeted drug in the United States. For Colombia, which apparently was previously a minor supplier of marijuana to the U.S. market, quickly replaced Mexico as the major source. Indeed, it also became apparent that Colombian marijuana was of higher quality, as measured by the concentration of tetrahydrocannabinol (THC), the active ingredient. The change in supply sources might have occurred even without the paraquat spraying but, as in the case of Turkish opium, effective action by a single source country government was almost immediately negated by the appearance of another source country which could produce enough of the drug to minimize the impact of the successful program, and whose migration to the U.S. provided a large enough pipeline for efficient distribution.

The success of the Mexican and Turkish efforts points to the possibility that rapid declines in individual source country production *can* be achieved. However, I think there are two important distinctions between Turkey and Mexico, on the one hand, and most source countries on the other. First, in both nations the central government's authority in the growing areas was very strong. In the seven provinces of central Turkey, which were traditional opium producers, the national government could enforce laws with little risk of revolt. The same cannot be said, for example, of the coca producing areas of Peru, currently the operating territory of the Shining Light guerillas, or the opium regions of Burma controlled by insurgent armies. Though the northern provinces of Mexico are rugged and difficult to police, there was no political threat arising from more stringent enforcement.[17]

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[17]A related argument is made by Kaplan (1983): "Though it seems to lack the capability to enforce its law on the ground, the Mexican

At its peak, Mexico never produced more than 5 percent of world opium supplies. It was, moreover, a very high-cost producer, with farmgate prices at least ten times those of other source countries. But it was a low-cost source country for U.S. heroin addicts because the costs of bringing heroin into the U.S. were so low. That, in turn, was a function both of the porousness of the U.S.-Mexican border and of the density of the cross-border traffic within which the heroin moved.

Why did no other producer country take Mexico's place during the next four years? There are some special circumstances that may have had a role. Most important was the final departure of U.S. armed forces from South Vietnam, which shut down a particularly efficient pipeline for Southeast Asian heroin into the U.S. The combination of the Turkish poppy ban and the elimination of the trafficking system known as the French Connection together eliminated an important distribution network in the mid-1970s. Certainly it was not the lack of opium in world markets from 1976 to 1978 which led to the relative tightness of the U.S. heroin market. Pakistan, for example, already had a bumper crop in 1978, well before the influx of Southwest Asian heroin into the United States.

The third success story concerns Mexican marijuana exporting. The Mexicans used the equipment the U.S. provided for opium eradication and another herbicide, paraquat, which they bought with their own funds from non-U.S. manufacturers, to eliminate marijuana as well. Their interest in doing this seems to have originated with domestic rather than U.S. concerns; marijuana use was rising in Mexico.

Marijuana plants sprayed with paraquat will not produce any more of the leaves, flowers, etc., used for smoking. However, it is possible to harvest the marijuana that is already on the plant at spraying. It is widely believed that smoking marijuana that has been sprayed with paraquat is extremely hazardous,[16] but that it is not easy for the user to identify whether or not the drug has been sprayed. The result of

[16] The most authoritative report concluded "the evidence concerning the injurious effects of paraquat inhaled after either spraying or smoking is too meager for conclusions" (Institute of Medicine, 1982, p. 187).

unauthorized poppies.[14] This provides a strong incentive for self-policing at the village level. Certainly, though Turkey remains a major transshipment country for heroin from Southwest Asia, there is a widespread belief that it produced negligible amounts of opium for the illicit market.

What was the consequence for the United States of the successful Turkish ban? The immediate effect was significant; purity declined and prices rose. However, it appears that whatever shortfall in supply it might have produced was quickly compensated for by the development of Mexican heroin production. It is quite plausible that this was simple coincidence, but most observers believe that it was a response to the opportunity provided by the Turkish ban. There is no evidence that the ban led to more than a very brief reduction in the availability[15] of heroin in the United States and it is apparently true that by 1974 Mexican heroin accounted for 80 percent of total U.S. heroin consumption (National Narcotics Intelligence Consumers Committee, 1980). Particularly alarming was that Mexico had no domestic opium or heroin market; production was intended solely for export to the U.S.

The second success story concerns U.S. efforts to eliminate Mexico as the major heroin source country. In 1973, the United States and Mexico entered into an agreement whereby the United States provided assistance to the Mexican government to eradicate poppy fields, mostly located in mountainous and isolated areas in the north of the country. The United States supplied equipment, principally helicopters and planes, training, and some herbicide (2,4 D). Heroin production in Mexico fell 75 percent from 1976 to 1980.

This does appear to have had an impact on the availability of heroin in the U.S. A number of indicators point to a decline in heroin use from 1975 to 1979; the official estimate of the number of addicts fell by 20 percent, prices rose sharply, and purity fell. It is difficult to identify any changes in domestic enforcement that might account for this substantial decline. Not until 1980 did U.S. heroin consumption approach its former levels.

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[14] Discussions with USAID official.

[15] Availability is clearly a complex notion for illicit markets. The most important observation is that total estimated consumption of heroin was 6.6 metric tons in 1975, higher than in 1972.

SUCCESS STORIES

With this model in mind, let us turn to what are usually described as the success stories in the international drug control programs of the U.S.: Turkish opium, Mexican heroin, and Mexican marijuana. In each case, the U.S.-initiated effort was successful in reducing the quantity of drugs produced in the targeted country. But only in the case of Mexican heroin did this have much impact on U.S. drug consumption; we shall see that this fits the "pipeline" model.

Turkey was believed to be the source of 80 percent of the opium used for American heroin supply in the late 1960s. At least this was the assertion of the Ad Hoc Committee on Narcotics, an interagency group formed by the White House in 1970 (Epstein, 1977, p. 89). The CIA estimated at that same time that Turkey was responsible for only about 10 percent of the world's illicit opium production. The high estimate of Turkey's contribution to U.S. heroin was attributed by the Committee to Turkey's locational advantage as a supplier to European refiners. It has also been suggested that Turkey was chosen as the site for the program because it was a relatively cooperative NATO ally (Pekkanen, 1980, p. 79).

The U.S. government offered to compensate Turkish poppy growers in return for a Turkish government prohibition on poppy farming. An agreement was signed in 1971, committing the U.S. Treasury to pay $35 million to Turkey. It appears that the ban was successful and that little opium was grown in Turkey during the period it was in force.

The ban lasted less than two years. The U.S. delivered about $23 million, but internal Turkish politics led Turkey to unilaterally abrogate the ban in 1974. Instead, the Turkish government imposed stringent controls, designed to assure that there was little leakage from the legal opium market.[13] The controls, unhindered by American notions of due process and individual justice, seem to be successful. A major instrument is the threat to tear up the authorized poppy crops of all members of a village if one of the members is found to be growing

[13] The tangled web of events surrounding the Turkish poppy ban is well described in Spain (1973). Critical to the improved control was introduction of the poppy straw method, which requires the farmer to sell the poppy, rather than opium base, to the government.

Third, if there is a large population of immigrants from the source country in the consuming country, it is more likely that the exporter can find a local high-level distributor. The more Pakistanis resident in London, the higher the probability that a Pakistani exporter can find someone in his own community there who will know an English distributor. Thus, the number of travellers, their composition, and the size of the community resident in the user country all affect the efficiency of trafficking.

If this is so, then we must ask why there are relatively sudden changes in the distribution patterns to source countries. After all, the immigrant flows and the heaviness of traffic from source to consuming countries change relatively slowly; the middle-class Iranian exodus of 1978-1980 was unusual.[12] There was not a sudden increase in the number of Pakistanis in Western Europe around 1980, which might explain the great increase in the flow of heroin along that path. However, the pipeline effect is likely to be nonlinear. There are thresholds, which once passed, may lead to rapid changes in the efficiency of the distribution through a particular pipeline. As for computer software firms in Silicon Valley, there may be important interactions between individual enterprises which improve the efficiency of each distribution enterprise as the industry grows.

The international cocaine market provides some evidence consistent with this view. Most cocaine entering the U.S. comes from Colombia, though the raw material is produced mostly in Peru and Bolivia. The advantage of Colombia as an export source is partly that it is the largest source of migrants to the U.S. from any South American country. On the other hand, most cocaine exported to Europe leaves from Brazil, which has the largest migrant population in Europe.

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[12]Another exception was the growth and decline of the pipeline from the Golden Triangle (Laos, Thailand, Burma) between 1965 and 1975; this was a function of the rise and fall of the U.S. military presence in Vietnam.

most of the export price of drugs represents payments to couriers and dealers for incurring risks. E.g., what was gained by elimination of Mexican opium/heroin production was not the loss of the raw material (which was extremely expensive relative to traditional producer countries) but the availability of that material for distribution to the U.S. by efficient Mexican networks. If it were easy to smuggle heroin *into* Mexico, the loss of local production there would have been of minimal consequence. As it turns out, the Mexican government is reasonably effective at making it risky to bring heroin into that country, so the trafficking networks cannot deliver the capacity throughput that they developed in the early 1970s.

The growth in the availability of Southwest Asian heroin in Western Europe and the U.S. since 1979 may have been less affected by the price of opium in the local markets than by the growing density of traffic from the region into Western Europe. Pakistan has substantial expatriate communities in Britain and West Germany. There are also large communities of Armenians and Lebanese in Europe and the U.S. Iranian immigration to the U.S. suddenly increased after 1977. These provide broad pipelines, so to speak, within which to hide the movement of drugs.

These broader pipelines have three important advantages for drug smuggling. First, they make it more likely that the courier will not be detected, because surveillance decreases in intensity as the general traffic from a particular source country increases. If there is only one flight each day from Karachi to London, then it is possible to scrutinize every vaguely suspicious looking passenger. If there are ten per day, it becomes much more expensive for the Customs Service with its multiple objectives to maintain the same level of drug-oriented scrutiny.

Second, the probability of finding a courier able and willing to carry the drugs increases with the size of the pipeline. When the only Pakistanis travelling to London are well-to-do tourists, it is likely to be hard to find a courier. In this company, a peasant on the plane would probably get caught. But when there is a steady flow of low income migrants, then it is easy to find and conceal a courier within the flow.

situations only a small share of these earnings enters the official accounts, but certainly some does.

EXPLAINING INTERNATIONAL DRUG FLOWS

The United States pursues crop reduction as a goal because it assumes that the less each source country produces, the less will be exported to America. Clearly, if *none* is produced, then none can be exported. But, as we shall see, it is also plausible that quite large reductions (or increases) in any particular country's production will have little impact on exports to the U.S.

Let me now sketch a model, admittedly a very speculative one, about the determinants of heroin and cocaine supplies to the U.S. I shall illustrate it primarily through consideration of the opium/heroin market, since we have a richer history available for demonstrating the utility of the model.

We start with the observations already mentioned concerning the price of opium in source countries relative to the price of heroin in the U.S. At its highest, the 10 kilograms of opium in Thailand needed to make one kilogram of heroin costs $1000. If that price fell to $100 or rose to $5000, it would have little effect on the price of heroin delivered to the U.S., roughly $200,000 per kilogram at the importation level. Yet the effect of crop reduction, short of elimination, is simply to raise local prices.

Moreover, it appears that quite large differences in source country prices for particular drugs have little effect on the composition of U.S. imports across countries, which is not what we would expect in a smoothly working international market. For example, in the oil market Nigeria has only to raise its price by 1 percent to lose a large share of its sales; its customers have little hesitation in shifting to other suppliers. Yet the bazaar price for opium in Burma can be half that in Pakistan without any great shift in the origins of American heroin imports.

A plausible conjecture for this is that the important determinant of the price of a drug from a particular country is not the source country price but the availability of efficient international distribution networks. This is certainly consistent with the fact that

these considerations, and the distaste that diplomats and policymakers have in concerning themselves with such unseemly matters as the drug trade, it turns out to be difficult to put consistent pressure on source country governments to deal with a problem they view as mostly American.

Finally, and perhaps most importantly, the set of producer countries is not fixed. New producers emerge all the time. Brazil is apparently witnessing a rapid growth in coca and marijuana production; until five years ago, these crops were minor and only for peasant consumption. In 1983, the Brazilian authorities claimed to have destroyed or seized nearly 2000 tons of marijuana (almost 30 percent of the best estimate of U.S. consumption). Belize, an enclave of 150,000 people in Central America, may have produced 700 tons of marijuana in 1983, all for export, where there was none five years earlier. Pakistan had little opium production prior to 1948, the British being concerned to protect the opium farmers in other parts of British India. Yet by the mid-1950s, there was substantial licit and illicit opium production in the North West Frontier Province. There is no reason to believe that other countries with large impoverished peasant populations and weak central government would not become significant producers if the current producers greatly cut their exports. A large or traditional local market turns out not to be essential. In the instance of marijuana, we must also note the rapid growth of very high quality domestic U.S. supplies.

The lack of motivation may be seen as equally fundamental. The national governments in many of these countries perceive the political costs of reducing farmer cash incomes in major regions as very high. Indeed, in describing the recent Bolivian crackdown on coca producers in the Chapare region, involving the moving in of troops, the *New York Times* reported: "On August 17, less than a week after the Chapare occupation, the government was forced to drop the peso's official value by more than half, from 2000 to $1 to 5000. And in Bolivia, the world's most politically unstable country, that is enough to start talk of a coup" (September 12, 1984, p. A16). Governments dealing with the stringencies of IMF requirements are likely to have pause in adding to their domestic economic worries. Whether they also desire to cut the foreign exchange earnings generated by drug exports is unclear. In most

It should be noted that there is little talk of crop substitution for marijuana producers; enforcement alone is supposed to deal with that problem. Two arguments have been made for this policy. First, marijuana is grown solely for illicit commercial purposes, whereas the other two have licit uses as well. Thus, one can simply spray all detected marijuana fields without worrying whether this one or that might be a licit field. On the other hand, in Peru there are some 9000 licenses for coca production; determining which fields are licit and which are illicit is not easily accomplished. Second, producers are "mercenary"; they are not peasant farmers without a cash crop alternative. As one official suggested, it would scarcely be good policy to reward new marijuana source countries by granting them agricultural development assistance.

A second major obstacle to crop reduction is the generally weak control of the governments in the producing areas. The Thai and Burmese governments have long been fighting insurgent movements in the hills which are the home of the poppy growers. The Peruvian government has little effective control in some of the very remote regions which produce coca leaves. Similar statements are true for Afghanistan, Pakistan, Bolivia, and Laos, at least. Even where governments are strongly motivated and have sensible plans, they are likely to have great difficulty in implementing them.

Third, some major source countries, notably Iran and Afghanistan, have hostile relations with the United States. Though each may adopt policies to reduce domestic consumption, they have no concern about U.S. imports. Fourth, U.S. relations with most of the other countries involved in opium production are very complex. The United States would like Pakistan to adopt certain policies with respect to Afghanistan. It seeks to retain bases in Thailand. It would like Colombia to take particular positions with respect to Central America. As a DEA official said in explaining the relatively light pressure being exerted on Jamaica, "Some analysts believe that if you came in with a severe narcotics program, you could affect the existence of the present government. . . . Drugs are a serious problem. But communism is a greater problem" (*New York Times*, September 10, 1984, p. A1). Given all

CROP REDUCTION

Despite increasing producer country concern with local drug use, there are many impediments to successful crop reduction efforts. The first is that the farmers producing the crops are usually faced with very weak alternatives for generating cash income. Poppies may indeed be, presently, the only crop that can be produced in remote areas of Burma and Thailand to provide a cash income on a steady basis. Everyone recognizes that increased law enforcement efforts against farmers in producing countries will have little effect unless another set of productive opportunities is also provided. This takes many years. The basic strategy of the U.N. Fund for Drug Abuse Control (UNFDAC) and the Thai government is to develop alternative cash crops for opium farmers.

In most cases, this requires, among other activities, the creation of new infrastructure (roads in particular) to permit the efficient delivery of bulkier and more perishable crops to distant markets. Farmers also must learn how to produce crops that are entirely new to their region, such as cacao in the Upper Huallaga Valley of Peru and kidney beans in the Chiang Mai area of Thailand. Whether providing infrastructure and new crops will turn out to be sufficient to reduce the flow of resources into poppy production is a matter of speculation.[10] The programs in Thailand show promise but encompass a population of only a few thousand. There are no instances in which crop substitution has actually been achieved on a large scale.[11]

In the case of opium, the problem is also exacerbated by the fact that the crop has licit domestic uses as well. The poppy can be used for animal feed, cooking oil and fuel.

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[10]It is also worth noting that improving a farmer's productivity in other crops is also likely to raise his productivity in opium production. The same holds for subsidized irrigation and fertilizer supply, but not for provision of roads. More generally, the issue is whether the measures used will raise the relative attractiveness of non-drug crops.

[11]One State Department official cited a piece of black humor from a speech by a Bolivian minister, "We have a successful crop substitution program; coca plants have been substituted for everything else."

drug law enforcement. But he seems to have also understood that this may be the result of picking foreign opportunities carefully. It does not mean that there are many remaining opportunities for productive expenditures overseas.

Officials in INM base their optimism about the future on the apparent success of diplomatic efforts. They claim that there is increased interest on the part of senior U.S. government officials in raising drug related issues with their foreign counterparts and that those counterparts are more willing to follow up on promises of action. The recent success of the Pakistani government in greatly reducing the area under illicit poppy cultivation in the "settled" areas of the country[7] is cited as an instance of effective diplomatic pressure. Though a total national ban on opium production has not been implemented, new laws, increased police efforts and low producer prices have reduced estimated production levels to less than 45 tons in 1984, compared to 800 tons in 1979.[8]

In some opium producer countries, the growth of large heroin user populations may have increased the willingness of the government to implement crop reduction and traffic control programs. While estimates of the addict populations in countries such as Thailand and Pakistan are extremely unreliable, it seems clear that these countries perceive themselves as having a substantial problem. INM cites an estimate of 50,000 Pakistani heroin addicts, where there were almost none ten years ago. With a certain amount of skepticism INM cites a figure of 400,000-600,000 Thai addicts, again an entirely new phenomenon.[9] Domestic Colombian use of a dangerous combination of marijuana and cocaine residue is asserted to be causing great concern in that country.

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[7] "Settled" areas are those which were under direct British control prior to 1947. Other areas are "merged" (having been partially controlled by the British) and "tribal." Central government authority is weakest in the tribal areas, where the remaining poppy crops are found. It is also significant that different statutory codes still apply in the three areas.

[8] It has been suggested that the increasing influence of Islamic doctrine in Pakistan domestic policies has also played a role.

[9] Trebach (1982, Chapter 1) provides a skeptical listing of estimates, all showing large recent increases for addict populations in Asia and Europe.

Nonetheless, these documents advocate policies which have little likelihood of success in reducing American drug consumption. They ignore the realities of the world drug market. U.S. consumption is derived from a multiplicity of countries whose exports to this country are probably only slightly affected by total production. In the case of Mexican opium, U.S. efforts were able to reduce total production so substantially that there was simply too little heroin to deliver. But Mexico is distinct from most major source countries since a lack of an indigenous market meant that there was no local consumption base from which to bid for export material.

In general, if it is the cost of distribution which determines a nation's exports to the United States, then two consequences should be noted. First, INM programs should focus on those countries which are the major sources for U.S. markets, not those which are the largest producers. Implicitly, there is already a recognition of that; the attention given to Mexico represented its importance to U.S. consumption and not world production. Second, except where U.S. consumption is the bulk of the market, programs should focus on distribution to a greater extent than they do. Unfortunately, we have little idea of how to make distribution a more risky and expensive activity in other countries. Crop reduction may be very difficult but at least the tools, eradication, and substitution programs exist.

There are, despite this, good arguments for maintaining an international production control program. First, some success cannot be ruled out. The right set of ecological and political events might make it possible, through effective diplomacy, to cause a major short-term disruption in some U.S. drug markets. For example, a drought in Afghanistan, continued success in crop substitution in Pakistan, and the installation of a more authoritarian regime in Thailand might make heroin somewhat scarce in the United States for two or three years, time needed to increase production elsewhere and establish the necessary trafficking routes. Estimates of the annual social cost of drug abuse in the United States are highly speculative but a figure in the tens of billions is not unreasonable. To spend a few million dollars annually for a 1 percent probability of reducing that cost by $10 billion is not unwise.

Second, the vast array of international treaties which attempt to restrict diversion of licit production of cocaine and opium into illicit markets is worth preserving. Note here an important distinction between the U.S. and the source countries with respect to world drug markets. Because the U.S. is wealthy and populated with recent immigrants from many different countries, it has relatively smoothly functioning traffic flows to a number of producer countries. That is not true for many of the source countries themselves. A drying up of heroin supplies in Bangkok is unlikely to bring a flow of drugs to Thailand from Pakistan, let alone Mexico.[21] Consequently, the major beneficiaries of U.S. efforts at curtailing Thai drug production are Thailand itself and the other countries in the region, most notably Malaysia, whose drug users are dependent on Thai source opium. The U.S. commitment to reducing wholly illicit production is important for the source regions. Removal of that commitment might greatly increase the availability of drugs for illicit markets throughout the world. The social costs of that increase for the source countries is likely to be very substantial.

These are arguments for maintaining the existing programs. They are also arguments for lowering the level of rhetoric, particularly in Congress, concerning the importance of these programs in helping deal with the domestic drug abuse problem. They are best seen as part of America's general foreign aid policy, and only secondarily as a very speculative investment in long-term reduction of the availability of drugs in the U.S.

If this view is correct, what are the proper instruments for reducing drug abuse in America? At present, governmental efforts are focused primarily on drug enforcement, a program with very shaky conceptual foundations (Polich et al., 1984, Chapter 3). Large resources ($280 million in FY 1982) are devoted to interdiction, i.e., seizure of drugs just before or just as they cross the U.S. border. Because the drugs are still so cheap at that point in the distribution chain, these seizures impose relatively modest costs on the drug dealer

[21]Some heroin does flow from Southwest Asia, through Bangkok, to Singapore. Presumably, this could be diverted if Bangkok prices rose enough, but the quantities appear to be small relative to the Bangkok market.

population. Doubling the interdiction rate for cocaine might only raise the price by about 3 percent. Investigations of high level dealers, including undercover operations, have somewhat more promise but the current success rate of these efforts may be largely explained by the impunity with which high level cocaine and marijuana dealers have been able to operate until recently. There are relatively simple adaptations, including scaling down the size of the operations, which drug dealers can implement to greatly reduce the effectiveness of those investigative efforts without much raising the final price of drugs. Local law enforcement, aimed at the retail level and users, is thwarted by the lack of prison capacity and the sheer size of the user-retailer populations, at least for marijuana and cocaine.

What is neglected is demand reduction, surely as fundamental a strategy as crop reduction. Indeed, a recent statement by Secretary of State Shultz suggests precisely this point, though the Secretary drew a different inference from it: "Our goal must be to control narcotics production in all geographic markets simultaneously. We have learned the hard way that markets shift to meet demand" (*New York Times*, September 22, 1984, p. A5). At present, the federal government spends less than $20 million per annum on drug prevention activities, despite the considerable promise of school-based programs modeled on successful anti-smoking programs (Polich et al., 1984, Chapter 5). These programs focus on short-term health effects of drug use, teach adolescents how to deal with peer pressure and use older peer role models to deliver the message. While they are still in the developmental stage, these programs are very plausibly going to reduce the extent of early adolescent marijuana use. Given that marijuana use is apparently a necessary antecedent for cocaine use, it is likely that they may also significantly reduce cocaine use.

Heroin presents a very different problem. The heroin using population is relatively small, perhaps 500,000 regular users compared to 4 million for cocaine and 20 million for marijuana. That difference is a measure of the relative effectiveness of heroin enforcement, which has made the drug exceptionally difficult and expensive to obtain.[22] Use is concentrated among young adult urban minority males; the

[22]Edelman (personal communication, 1984) suggests that the relevant

prevention programs are unlikely to be very successful in the kinds of schools these children attend. Nonetheless, there are ways at least of reducing the damage caused by heroin addiction, using law enforcement to affect demand.

Enforcement agencies, quite understandably, focus their efforts on sellers rather than users. This has the effect of making heroin more expensive, since dealers have to be compensated for the risks they incur. As best as we can tell, and the evidence is certainly not good (Silverman and Spruill, 1977), higher priced heroin leads to more crime, as addicts' revenue needs rise. A user-focused strategy, in which police make an effort to arrest users (perhaps by simulating the behavior of dealers) has the condign effect of making it more difficult for heroin users to obtain the drug, without at the same time increasing the amount of crime they need to commit.[23]

Whether or not these are exactly the right strategies, the important issue is that American drug abuse is a domestic problem. Little is gained by focusing our energies on persuading foreign governments to take America's problems as their own.

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comparison is the size of the "abuser," rather than user, groups for the three drugs. Heroin, however, has uniquely addictive powers.

[23]This argument also has relevance to efforts against dealers. Police agencies have an understandable preference for making cases against higher level dealers rather than retailers. What tends to be ignored is the gain from making retailers cautious. This caution makes it harder for users to find sellers, in addition to its price effect, and will particularly handicap new users searching for dealers.

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